INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1933 No. 2

DISCOVERIES AND CURRENT EVENTS *

French North Africa: Desert Locust (*Schistocerca gregaria*) (1).

ALGERIA.

3 December 1932 — A large swarm over Colomb-Béchar at 3 p. m. flying N. E.
4 » » — A small red swarm passed over Beni-Abbès flying E.
A swarm of medium density coming from the N. N. W. passed over Tabelbala flying N. E.
5 » » — A dense pink swarm, of 10 × 5 km, coming from the S. settled at Béchar (Colomb-Béchar).
A large swarm coming from the N. W. settled at Igli (Colomb-Béchar).
7 » » — A sparse red swarm coming from the S. W. passed over Beni-Ounif at 1 p. m. flying N. E.
10 » » — A large red swarm coming from the S. E. settled at 2 p.m. at Adrar.
11 » » — A small swarm coming from the W. settled 15 km W. of Arbaouat (Géryville) and departed towards the N.
12 » » — A large red swarm coming from the S. settled at Deldoul Barka Charovin (60 km S. S. W. of Timimoun).
13 » » — A small swarm coming from the W. settled 80 km from El Abiod (Géryville) and flew E.
15 » » — A large swarm coming from the W. settled 130 km S. of Géryville and departed towards the E.
22 » » — A red swarm settled over the region W. of Meridja (Colomb-Béchar) at 9 a. m.

MOROCCO.

23-24 November 1932 — A large swarm settled on the 'tribu' of the Is Brahim (50 km E. of Tiznit). Departed on the 25 flying E.
30 » » — A very large red swarm passed 18 km E. of Cap Ghir at about 3 p. m. flying S. E.

* Under this and the next heading the countries are arranged in French alphabetical order.

(1) Communication from the Government General of Algeria (Direction des Services Economiques) to the International Institute of Agriculture.

1 December 1932 — A red swarm reported by the circle of Erfoud 20 km S. of Taouz.

2 » » — A red swarm passed 45 km E. N. E. of Taroudant flying N. E.

A swarm of 3 sq. km settled during the night on the Aouchouz 165 km E. of Cap Ghir. Departed on the 3rd flying E.

3 » » — Some pink adults collected where the road from Port Lyautey branches to Tangiers and Petit Jean.

5 » » — A swarm of 2 sq. km passed over Ksar es Souk flying N.

A red swarm of 2 km × 500 m passed over Bou Denib at 1 p. m. flying N.

A small red swarm passed over Igherm at about 1 p. m., driven N. by a southerly wind.

A large swarm coming from the S. settled 100 km S. W. of Erfoud.

6 » » — A swarm passed Tafilalet flying N. E.

A red swarm coming from the S. settled at Bou Anane. Departed on the 7th flying N.

A very large red swarm coming from the N. E. passed Tale Kjount, 130 km E. of Cap Ghir, flying S. W.

A swarm coming from the S. settled at Assaghar (180 km E. of Agadir) and flew S. E.

7 » » — A red swarm coming from the S. settled 15 km S. W. of Bou Anane.

A large red swarm coming from the S. settled on the palm plantation of Akka. Departed on the 8th at 5 p.m. flying N.

A large red swarm passed at about midday 140 km. E. of Cap Ghir (Circle of Taroudant) flying S. E.

A red swarm coming from the S.-W. settled at Bou Anane and Ouled Abbès. Flew N. E. on the 8th.

8 » » — A large swarm passed over Bou Malem flying S. W.

11 » » — A swarm of 13 × 3 km coming from the W. settled at Amizmiz. Departed in the afternoon towards the N. E.

17 » » — A small swarm coming from the S. E. turned above Igherm and flew S. with a northerly wind.

19 » » — A swarm of 10 × 3 km settled near Tassoultant Aghouatin (9 km S. S. E. of Marrakech).

19-20 21-22 » » — Numbers of swarms settled between Kerrando and Aoufous and Aoufous and Bou-Denib.

20 » » — A red swarm of 4 × 3 km coming from the S. E. settled at Ouled Brahim (20 km W. of Taroudant). Departed on the 21st flying N. E.

A swarm coming from the Haouharas settled at about 5 p. m. at El Mouih at Tirkou.

22 December 1932 — A red swarm of 10 × 15 km coming from the E. settled on the country of the Tazentant. Departed on 23rd and settled again at Tanit where it spent the night of the 23-24th.

A small swarm coming from the N. E. passed over Gourrama.

23 » » — A swarm of 6 km following the valley of the Oued Zat passed over Aït Ourir and flew in the direction of Marrakech.

24 » » — A swarm of 6 km coming from Tamazouzt by the valley of the Oued Zat passed at 1 p. m. at Aït Ourir flying towards Aït Zaid.

A red swarm of 4 × 2 km coming from the N. W. passed over the Montaga (40 km E. of Taroudant) flying S.

25 » » — A swarm of 4 km circled over Aït Ourir at 3 a.m. and flew E. following the Oued Zat.

26 » » — A red swarm of 2 × 1 km coming from the N. W. settled near Demnat and soon departed.

A small swarm coming from the E. settled at Douar Huegui, region of Marrakech. Departed on the morning of the 29th flying towards Sidi Rahal.

A very dense swarm of 700 × 800 m passed over Douar Iznaguen (E. of Taroudant) flying N.

27 » » — A red swarm of 2 × 4 km coming from the N. settled E. of Marrakech. Flew away on the morning of the 28th towards the N.

A swarm coming from Ida ou Tanan settled near Boumeït, region of Mogador.

French West Africa: Tropical Migratory Locust (*Locusta migratoria migratorioides*) in Dahomey (1).

29 October 1932 — A swarm coming from the S. W. (Bopa region) settled at Allada. Departed on 31st flying S. E., region of Abomey Calavi.

3 November » — A swarm coming from the E. settled in the subdivision of Sakété, circle of Porto Novo. Departed on the morning of the 4th, flying W.

7 » » — A swarm coming from the N. (Tanguiéta) passed Boukombé (circle of Atacera) flying S. E. (Djougou and Sodoké).

(1) Communication from the Government General of Algeria (Direction des Services Economiques) to the International Institute of Agriculture.

Egypt: Desert Locust (1).

No swarms of the desert locust appeared in the country during November, 1932.

Few *Schistocerca gregaria* ph. *flaviventris* were found scattered in some valleys of the Arabian desert, others were discovered in the Oases of Kharga and Dakhla in the South Western desert. Most probably they were the remnants of swarms which invaded the country in previous years. They were so few that no control was necessary.

A scheme for scouting other parts of the desert was laid down with the object of finding out whether any breeding took place.

Eritrea: Tropical Migratory Locust (*Locusta migratoria migratorioides*) (2).

During November 1932 very few locusts were reported in the Colony.

In the western plain adults of unspecified colour passed over Tzellimá on 5 November. The same day a very dense swarm of dark coloured locusts coming from Mai Ambesa passed over Boscioca; other locusts settled in the Badouma plain and copulation occurred.

On the high plateau a dense swarm of young locusts followed by numbers of storks passed over Az Teclesan and Sciouma Negus Tahtai on the 13th, flying towards the eastern plain. Numerous hopper bands of *Locusta migratoria migratorioides* appeared towards the middle of the month in the territory of Acchelé Guzai and were rapidly destroyed by means of flame-throwers of the Egyptian type.

In the eastern plain a single swarm of *L. migratoria migratorioides* was reported on 18 November coming from Mai Tzellim and flying towards Mended.

Amongst the specimens of *Locusta* taken were observed a number belonging to the solitary phase.

During November 1932 no damage was caused to crops.

No swarm of *L. migratoria migratorioides* was reported in the Colony during December 1932.

United States of America: A Survey of Apple Rust in 1932 (3).

The importance of *Gymnosporangium germinale* as a cause of a disease of apples has only been realized since about 1927. Previous to that time all the injuries to apples recognized as due to a cedar rust were attributed to *Gymnosporangium juniperi-virginianae*. It is now known that *G. germinale* causes a

(1) Communication from the Chief Plant Pathologist, Plant Protection Section, Ministry of Agriculture, Giza, Egypt to the International Institute of Agriculture.

(2) Communication from the official correspondent of the Institute, Dr. Rolando GUIDOTTI, Chief of the Agricultural Bureau of Eritrea, transmitted by the Government of the Colony.

(3) Communication from the official correspondent of the Institute, Dr. Neil E. STEVENS, Senior Pathologist, Plant Disease Survey, Bureau of Plant Industry, United States Department of Agriculture, Washington.

definite injury to apple fruits, symptomatically quite different from that caused by *G. juniperi-virginianae*, and even more damaging to the fruits affected.

Varieties known to be susceptible to these two species are indicated below :

G. juniperi-virginianae	*G. germinale*
Rome	Winesap
Wealthy	Delicious
York	Arkansas Black
Jonathan	Stayman
Ben Davis	Yellow Transparent
McIntosh	Rome

In an endeavor to determine the relative abundance of these two rusts in an important apple producing area, a survey was conducted by P. R. Miller and L. R. Fate, in Pennsylvania, West Virginia, Virginia, North Carolina, and Georgia, July 1932. The results of this survey clearly show that the direct injury to apple fruits by *G. germinale* is at least equal to that caused by *G. juniperi-virginianae*. As high as 10 per cent, infection with *G. germinale* was found in a well cared for commercial orchard in Virginia. *G. juniperi-virginianae* was found practically throughout the region surveyed while *G. germinale* had a more restricted distribution, being found in Maryland, West Virginia, and Virginia.

It should be remembered that *G. germinale* causes injury only to the apple fruits while *G. juniperi-virginianae* injures both fruits and leaves.

Rumania: Black Rust of Cereals in 1932 and the Measures Taken to Prevent Future Outbreaks (1).

Wild and cultivated plants in Rumania were afflicted with a number of adversities in 1932 ; the worst damage being undoubtedly due to black rust of cereals (*Puccinia graminis*). This rust has not been of so much importance or so widespread within the memory of the oldest farmers. The most serious losses, amounting to 50 % of the probable crop, were in the valley of the Danube, particularly in the districts of Dolj, Romanaţi, Jalomiţa and Brăila, and in certain regions of Banat and Bessarabia. In places the losses reached 70-80 % of the crop, in others, such as Northern Moldavia and Northern Bessarabia, 10 % at most ; in the Caliacra and Durostor districts and in Northern Transylvania 5 %. Not all the wheat losses in 1932 were due to rust : only 50 % can be attributed to rust, the rest being the result of physiological causes.

The autumn of 1931 was characterised by a drought which retarded the germination and growth of the wheat ; during the following winter there were heavy falls of snow in February and March and the melting of the snow produced large quantities of water which lay stagnant in the fields asphyxiating

(1) Communication from the official correspondent of the Institute, Dr. Tr. SĂVULESCU, Chief of the Phytopathological Section of the Agricultural Research Institute of Rumania, Bucharest.

20-40 % of the wheat seedlings. Consequently the wheat growth was thin and the plants were weak and susceptible to all kinds of infection. The spring was cold and wet and still further retarded the growth of crops and increased the liability to disease. Weather conditions returned to normal only after 15 May. As a result of the bad weather the wheat escaped brown rust of wheat (*P. triticina*) in May : the first pustules being observed on 16, 17 and 18 June. The second half of June was wet and the rain and violent south winds favoured an outbreak and the spread of black rust. The native species, *P. triticina*, appeared very late and in small amount : its losses being insignificant. The yellow rust of wheat and other cereals (*P. glumarum*) however and more especially *P. graminis* found their development favoured by the exceptional conditions and attacked particularly the late wheats and those of which the growth was retarded by late sowing or bad weather. The wheat crops in low-lying land where the water was standing longest, in the land flooded by the Danube and along other water–courses were also very badly infected. High-yielding wheats suffered more than low-yielding, spring wheats more than autumn, long-strawed wheats more than short-strawed, wide-leaved more than narrow-leaved, yellow-strawed more than red-strawed, barbless more than barbed and wheats spaced at 15 cm between the rows more than those spaced at 10 cm. As is always the case in Rumania the early wheats were the most resistant to rust : those which reached maturity before 20-25 June escaped black rust and were little attacked by the brown and yellow rusts.

Cultivation of early varieties is the first measure recommended to growers for escaping the ravages of the black and yellow rusts. The Phytopathological Section of the Agricultural Research Institute of Rumania has moreover been studying during the last 4 years by the method of recording by coefficients, the rust resistance of the different varieties grown in the country. The resistance is determined in different localities and for each rust, more especially the physiological strains 13 and 20 of the brown rust which are the most widely spread in Rumania. For each region we are able to recommend the most resistant varieties. Thus, in the Danube plain the strains ' American 15 ' and ' American 26 ' selected by Professor G. Ionescu-Sisești at the Agricultural Research Institute have been found resistant to brown rust. The following have been classed as semi-resistant in general and resistant in certain years :— ' Sandu-Aldea 22 ', ' Tigănești 714 ', ' Sandu-Aldea 70 ', ' Sandu-Aldea 120 ', ' Sămânța 117 '. The following have been found susceptible :— ' Sandu-Aldea 224', ' Odvoș 3', ' Filipescu '. This classification is valid only for the Danube plain. In Banat and Southern Transylvania the varieties ' Sămânța 117 ', ' Bankut 1.201 ' and ' Odvoș 241 ' are the most resistant, being even better than ' American 15 ' and ' American 26 '. In Northern Transylvania ' Bankut 1.201 ' and more particularly ' Odvoș 241 ' are classed as the most resistant. In Northern Moldavia and the steppes of Bălți and Hotin the wheat number 11 selected at the Laza farm is the best as regards yield and resistance to rust. In Dobrudja the wheats ' Urias cu pana roșie ' and ' Sămânța 117 ' are the most resistant. But though the control of the black and yellow rusts may be achieved more or less satisfactorily by growing early varieties, that of brown rust can be effected

only by developing resistant varieties for each region and for each physiological strain of this rust.

It is recommended also to destroy weeds and plough or, better still, burn the stubble after the harvest.

As the black rust has been excessively abundant in 1932 in Rumania and as laboratory tests have shown the presence of 4 teleutospores in 1 sq. cm. of soil taken from a field near Bucharest, which means 400 million teleutospores per ha, a campaign to exterminate the barberry (*Berberis vulgaris*) has been recommended.

P. graminis in the uredospore form is not able to withstand the winter in Rumania and the complete cycle of development of the fungus cannot take place in the country without the intermediary stage on the barberry. The barberry grows wild in Rumania in the plain and the hills, until the mountain area. It is also cultivated in gardens, parks and cemeteries as an ornamental plant.

We recommend (1) rooting up and destroying on the spot all barberry bushes, not leaving roots in the ground which may give rise to new shoots, and destroying also the seeds ; (2) if the bushes are large the Thompson process is advisable, which consists in pouring 9 to 10 litres of sodium arsenite over the ground near the roots ; for this purpose 4.5 to 5 litres of sodium arsenite are mixed with 180 or 200 litres of water and some substance added which will prevent animals being attracted by the sweetish taste of the poison ; (3) barberry bushes can be destroyed by placing 5 to 6 kg of common salt near the roots.

It is still too soon to discuss the practical results of this campaign against the barberry.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Western Australia. — On 7 December 1932 (Agric. No. 2070/25 ; Ex. Co. No. 2109) the Director of Agriculture notified that Cape Tulip (*Homeria collina*) had been declared a noxious weed within the boundaries of the Moora Road Board District. (*Government Gazette of Western Australia*, Perth, 9 December 1932, No. 61, p. 1838).

Bulgaria. — By Law No. 43 of 4 July 1932 Art. 94 of the Law of 24 December 1928, concerning the improvement of agricultural production and management of agricultural property, has been amended.

Amongst other things all substances, preparations and chemical products intended for use in the control of plant diseases and pests are exempted from taxes, duties and charges of all sorts. Importation of such products will be under the control of the Ministry of Agriculture which will ensure that the favoured products are used solely for agricultural purposes. (*Deutsches Handels-Archiv*, Berlin 1932, 86. Jahrg., 1. Novemberheft, S. 2232).

Egypt. — By a Decree of 30 August 1932 have been annulled the Decrees of 26 August 1916, 29 July 1922, 12 November 1927, 9 June 1928, 19 June and 3 August 1930 containing measures for the protection of plants from diseases coming from abroad.

To paragraph (1) of Article 2 of Law No. 1 of 4 January 1916, specifying the living plants which may not be imported unless with authorisation from the Minister of Agriculture, has been added the following :—

(*a*) plants, parts of plants and fruits belonging to the families *Rosaceae, Rutaceae, Vitaceae* and *Solanaceae* ;

(*b*) plants, parts of plants and fruits of the fig ;

(*c*) fruits of Japanese persimmon ;

(*d*) onions ;

(*e*) all plants in pots or having the roots surrounded with soil or sand.

Pseudococcus sp. is regarded as injurious to fruits. Any imported fruits which are attacked by this insect must be fumigated. (*Journal Officiel du Gouvernement Egyptien*, Le Caire, 3 septembre 1932, 59ème année, nº 77, p. 5).

Italy. — By Ministerial Decree of 15 July 1932 shooting and snaring of the following insectivorous birds is absolutely prohibited until 31 August 1933:— green woodpecker [*Gecinus viridis*], spotted woodpeckers [*Dendrocopus major, D. medius, D. minor*], black woodpecker [*Picus martius*], tits [*Parus* spp.], chiffchaff and its relatives [*Phylloscopus* spp.], long-tailed tit [*Aegithalus*], penduline titmouse [*Remizus pendulinus*], goldcrest [*Regulus cristatus*], firecrest [*R. ignicapillus*], wren [*Anorthura troglodytes*].

By Ministerial Decree of 16 December 1932 have been added to the above list the European redbreast [*Erythacus rubecola*] and the nightingale [*Luscinia megarhyncha*]. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 20 luglio 1932, anno 73º, n. 166, pp. 3428-3429 ; 24 dicembre 1932, n. 296, pp. 5742-5743).

*** The Ministerial Decree of 20 November 1932 modifying the special technical regulations for the exportation of citrus fruits stipulates *inter alia* that exportation of fruits damaged by frost or severely infected with sooty mould is forbidden. Among the qualities required of first and second grade fruit is that it must be commercially considered free from scale insects. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 3 dicembre 1932, anno 73º, n. 279, pp. 5428-5437, 43 figg.).

*** By Ministerial Decrees of 21, 22 and 31 December 1932 and of 19, 21 and 23 January 1933 obligatory Consortiums (Syndicates) of olive growers have been formed in the provinces of Pisa, Sassari, Naples, Genoa, Reggio di Calabria, Foggia and Viterbo. Amongst the purposes of these Syndicates is to carry out control measures against olive pests and diseases. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 31 dicembre 1932, anno 73º, n. 302, pp. 5813-5814 ; 20 gennaio 1933, anno 74º, n. 16, pp. 252-253 ; 27 gennaio 1933, n. 22, p. 349 ; 1º febbraio 1933, n. 26, p. 429 ; 4 febbraio 1933, n. 29, p. 478).

Latvia (1). — The Ministry of Agriculture has added to the regulations of 25 April 1932 [see this *Bulletin*, 1932, No. 10, p. 168] relating to the control of preparations against plant diseases and pests a list specifying the charges for such control. The charges will be reduced by 25 % for products manufactured in Latvia.

Mexico. — By 'acuerdo' of the 'Secretaría de Agricultura y Fomento' dated 28 October 1932, the internal quarantine order ('Cuarentena Interior') No. 1 for the control of the pink bollworm (*Pectinophora gossypiella*) has been revised in order to be more effective in combatting this pest, which has been found in various places in the 'Municipios' of Villa Ahumada, Carrizal and San Buenaventura, State of Chihuahua and near the zone of the Juarez Valley. (*Diario Oficial*, México, 15 de noviembre de 1932, tomo LXXV, núm. 13, pág. 6).

Netherlands (The). — By a Law dated 7 July 1932 aiming at preventing introduction of the Colorado potato beetle [*Leptinotarsa decemlineata*], the Minister of Agriculture has been authorised to indicate the countries from which potatoes may not be imported, and from which between 15 March and 14 October fresh vegetables may not be imported unless they are accompanied by an official phytosanitary certificate of the country of origin stating that the vegetables are free from Colorado beetle and come from localities in which the beetle does not occur and so far as is known has not occurred within a radius of 200 kilometres. (*Deutsches Handels-Archiv*, Berlin 1932, 86. Jahrg., 2. Oktoberheft, S. 2195-2196).

Southern Rhodesia (2). — The Importation of Plants Regulations published in Government Notice No. 462 of 5 August 1932, provide *inter alia* as follows :—

No person shall intioduce any plants, including seed, except by post or through the following ports of entry, namely : Umtali, Salisbury, Gwelo, Bulawayo, Plumtree, Beitbridge or such port of entry as the Minister of Agriculture and Lands may allow by special permit.

Any plant, including seed, introduced may, before being delivered, be examined by an Inspector appointed for this purpose by the Minister.

Such plants, seed, receptacle or packing material may, when deemed necessary by an Inspector as a precautionary measure be treated at the expense of the consignee or addressee.

If any plant, or seed, be found actually infested with any insect, pest or plant disease it shall, including all packing material, be cleaned by and to the satisfaction of the Inspector, or if the Chief Inspector considers the infestation of a specially dangerous character be destroyed without delay,no compensation being paid.

(1) Communication from the official correspondent of the Institute, Professor M. Eglits, Director of the Phytopathological Laboratory of the University, Riga.

(2) Communication from the Department of Agriculture, Entomological Branch, Salisbury, Southern Rhodesia to the International Institute of Agriculture.

The consignee shall, when called upon to do so, furnish a certificate establishing clearly the contents, origin and destination of the consignment.

The Government shall not be liable for any loss or damage that may result from the destruction or detention of articles under these regulations.

Part I of the Government Notice contains special regulations affecting the introduction of plants from overseas or from any State on the continent of Africa, not included in the Plant Interchange Schedule. The following restrictions are imposed :—

Importation of the following is prohibited, namely :—

Eucalyptus, acacia, coniferous, oak (*Quercus*) and plane (*Platanus*) plants or any portion thereof except seed ; live peach stones ; fresh stone fruits ; fresh citrus fruits and dried citrus peal, excluding candied citrus peel ; elm (*Ulmus*) seeds and plants from any country where the elm disease (*Graphium ulmi*) is known to exist ; chestnut (*Castanea*) seeds or plants from any country where the disease known as chestnut blight (*Endothia parasitica*) is known to exist ; any plant packed in soil other than special rooting compost.

For another group of articles importation is limited to introductions made by or under the direct supervision of the Department of Agriculture, Salisbury. This group includes grape vines, sugar cane, plants of banana, cacao, tea and coffee, citrus trees, budwood and seeds, cotton seed, lucerne plants and seed.

For a third group of articles importation is allowed only under special permit from the Department. This group includes : coffee seed for propagation, seeds of tobacco, maize and barley, tea, acorns and chestnut seeds.

Part II concerns regulations affecting the introduction of plants from the Union of South Africa and other African States included in the Plant Interchange Schedule.

Part III specifies the conditions attaching to grant of special permits for importation of certain plants, etc.

Applications shall be in writing and shall state the names and addresses of the applicant and the person from whom it is proposed to obtain the plants ; the exact names of the plants and the number of each variety it is desired to introduce ; the mode of consignment and the exact locality where it is proposed to grow the plants.

Special regulations apply to :—

(1) Citrus trees. — Permits shall only be granted in respect of special varieties which are not procurable in Southern Rhodesia and are judged likely to be of benefit to the citrus culture of this land. The consignment shall be accompanied by an official certificate stating that the plantation from which the trees were taken was apparently free from serious insect pests and plant diseases, with special reference to citrus canker (*Pseudomonas citri*). The trees when imported shall be kept in quarantine with due supervision for a minimum period of three years.

(2) Tea plants and seeds. — Each consignment must be accompanied by an official certificate to the effect that the blister blight (*Exobasidium vexans*) has not occurred in the region where the plants or seeds were produced.

(3) Broom corn. — The straws must be detached and the crowns from which they originate must be completely cut away or otherwise cut to shreds.

(4) Maize seed. — Each consignment must be accompanied by an official certificate to the effect that *Sclerospora* diseases of maize do not occur in the district in which the seed was produced. No consignment shall exceed 10 lbs. in weight.

(5) Barley seed. — Any consignment shall not exceed 10 lbs. in weight.

(6) Fruit trees, forest trees, ornamental trees and shrubs and woody plants in general. — The number covered by permits shall be limited to 12 trees or rooted plants and 100 cuttings of any variety and to an aggregate of 100 trees or rooted plants or 1000 cuttings during any one year.

(7) Pome fruit trees, including ornamental species of *Cydonia*, *Malus* and *Pyrus*. — Each consignment shall be accompanied by an official certificate stating that the disease known as fireblight (*Bacillus amylovorus*) is not known in the region where the plants were grown.

(8) Cotton seed. — Permits shall be limited to four ounces of each variety and shall only be granted in special justifying circumstances.

Part IV concerns regulations affecting the importation of potatoes into Southern Rhodesia.

No person shall introduce potato tubers, unless he produces :—

(1) a statement on oath from the consignor establishing clearly the origin of the potatoes and the identity of the consignment ; and

(2) a certificate from the Department of Agriculture of the declared country certifying that wart disease (*Synchytrium endobioticum*) does not exist within five miles of the places in which the potatoes have been grown. This certificate shall not be required :—

(*a*) if the Government thereof has certified to the Administration of Southern Rhodesia that the said disease has not been known to exist in that country,

(*b*) if the consignee produces an official certificate stating that the said disease has not been known to exist in the department in which the potatoes have been grown.

Any consignment of imported potatoes if found to be infested with root gallworm or root knot eelworm (*Heterodera marioni* [*radicicola*]) or with any other species of eelworm injurious to plants shall be refused admittance or destroyed.

Should any consignment on arrival be found to be infected with wart disease, it shall be totally destroyed by fire.

The text of the Government Notice is followed by Annexures A-E which are models of certificates and declarations as required by the said Notice.

* * * By Government Notice No. 463 of 5 August 1932, the following countries are included in the Plant Interchange Schedule for the purposes of the above Importation of Plants Regulations :— Union of South Africa, Northern Rhodesia and the Belgian Congo.

Rumania (1). — The Ministry of Agriculture and Estates in 1932 undertook an active campaign to prevent an outbreak of black rust of cereals (*Puccinia graminis*).

The Ministry asked for the support of the following institutions to ensure the success of the campaign :— the dependent Services, the autonomous Administration of State Forests, the Ministry of Public Instruction, the Ministry of War, the autonomous Administration of Railways, the Department Headquarters, the Police Force.

The Services of the Ministry of Agriculture and Estates were required to conform with Orders Nos. 217.826 and 217.973 of 18 October 1932 ; the autonomous Administration of State Forests issued the Order No. 39.814 of 20 October 1932 to draw the attention of the forest districts to the action of the Ministry of Agriculture and Estates, and the Ministry of Public Instruction and the Department Headquarters received a series of instructions for distribution to their dependent organisations.

The period from 6 to 13 November 1932 was fixed as the time when shrubs of barberry (*Berberis vulgaris*), the host of black rust of wheat, should be destroyed with the utmost thoroughness.

Saar Basin (2). — By Police Ordinance dated 17 August 1932, issued by the President of the Government Commission with a view to preventing the introduction of the Colorado potato beetle [*Leptinotarsa decemlineata*], it is forbidden to import potatoes, tomatoes, aubergines, plants with or without soil, plant refuse or any sacks or other materials which have been used for packing such, coming from regions of France infested with the Colorado beetle or from regions in which there are special precautionary and control measures in force for preventing the spread of the beetle.

Importation of the products mentioned coming from other regions of France is permitted only by rail and if the consignments arrive in intact packages or in sealed wagons. They must also be accompanied by a certificate of origin and health, the model of which is annexed to the Ordinance. The certificate must be issued by an official of the French Plant Protection Service or by a Director of the Agricultural Services and is valid for 20 days from the date of issue. A copy must be sent to the Central Plant Protection Station at Saarbrücken which may inspect consignments on arrival.

During the winter months importation will be allowed of potatoes coming from regions of France which are not infested but are submitted to special precautionary and control measures, on condition that the special safety measures prescribed by the French Government have been observed and that such is stated on the certificate.

Consignments not conforming to the requirements of the present Ordinance will not be delivered to the consignee. Consignments coming from non-infested

(1) Communication from the official correspondent of the Institute, Dr. Tr. SĂVULESCU, Head of the Phytopathological Section of the Agricultural Research Institute of Rumania, Bucharest.

(2) Communication from the Biologische Reichsanstalt für Land- und Forstwirtschaft, Berlin-Dahlem, official correspondent of the Institute.

regions of France may however be delivered if an inspection carried out at the expense of the persons concerned removes all suspicion of infection.

Consignments which are refused must be returned by the importer within eight days, failing which they will be destroyed at his expense or utilised in such a manner as to avoid all risk of propagating the Colorado beetle.

No certificates of origin and health will be required for consignments coming from the Departments of the Haut-Rhin, Bas-Rhin, Moselle and Meurthe-et-Moselle.

Tripolitania (1). — By Governatorial Decree No. 11325 of 28 November 1932 the people of the Colony and more particularly the rural population are obliged to report to the nearest offices of the civil or military authorities of the Colony all locust swarms and their direction of flight, and the presence of any eggs, hoppers or adults of which they are aware.

The civil and military authorities of the Colony, whatever their grade and duties, are required to give effective assistance in locust control, to inform the Government (Land Settlement Department) and the Agricultural Bureau directly and immediately of the receipt of the above mentioned reports and of the results of the control investigations which they are obliged to carry out with all the means at their disposal.

All the able-bodied population of infested zones is expected, unless there is some legitimate excuse, to take part in the locust control work, which is undertaken and directed by the Government through the intermediary of the competent organisations.

Holders by any right of agricultural land must, actively and in accordance with the instructions given, provide for the control of adults, hoppers and eggs found upon their land and must allow the persons engaged in the work free access to their land.

The regulations and instructions for the organisation and development of control measures and for the methods to be used are annexed to the present Decree and have been endorsed by the Governor, approved and made effective.

Offences against this Decree and against any which may be prescribed by the competent authority for locust control in the course of the campaign will be punishable under article 650 of the Penal Code.

RECENT BIBLIOGRAPHY

ATHERTON, D. O. Pests of cotton in the Callide Valley. *Queensland Agricultural Journal*, Brisbane, 1932, Vol. XXXVIII, Pt. 6, pp. 488-492. References, p. 492.

[*Bucculatrix gossypii, Euxoa radians, Heliothis obsoleta, Earias huegeli, Antarchaea chionosticta*].

(1) Communication from the Italian Ministry of the Colonies, transmitted to the International Institute of Agriculture by the Italian Ministry of Foreign Affairs.

Bailey, Alice Allen. Effects of ultraviolet radiation upon representative species of Fusarium. *The Botanical Gazette*, Chicago, Illinois, U. S. A., 1932, Vol. XCIV, No. 2, pp. 225-271, figs. 1-6, pl. I. Literature cited, pp. 269-271.

Balachowsky, A. Contribution à l'étude des Coccides des Colonies françaises (1ère Note). Sur une Diaspine nouvelle du Tibesti. *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord*, Alger, 1932, tome XXIII, nº 8, p. 228-231, pl. XVI.
[*Aspidiotus* (*Evaspidiotus*) *dallonii* n. sp. living on *Ficus salicifolia* Vahl var. *teloukat* (Batt. et Trab.) Maire. Description in French].

Balachowsky, A. Contribution à l'étude des Coccides de France [11e Note]. Supplément à la liste des Coccides des Alpes Maritimes et du Var avec description d'un *Eriococcus* nouveau. *Bulletin de la Société Entomologique de France*, Paris, 1932, tome XXXVII, nº 16, p. 233-238, fig. A-G.
[*Eriococcus rosaceus* n. sp. on *Bromus erectus*; *Aspidiotus labiatarum*, *A. cyanophylli*, *Hemiberlesea subterranea*, *H. trabuti*, *Targionia donacis*, *Lepidosaphes ulmi*, *Cerococcus cistarum*, *Coccus hesperidum*, *E. coccineus*, *E. ericae*. Description of the new species in French].

Beauverie, Marie-Antoinette. Les maladies à ultravirus des plantes. *Annales du Service Botanique et Agronomique de Tunisie*, Tunis, 1932, tome IX, II + 175 p., VIII pl. Bibliographie, p. 125-166.

Beeley, F. Effect of meteorological factors on the virulence of Oidium Heveae in Malaya. *Journal of the Rubber Research Institute of Malaya*, Kuala Lumpur, F. M. S., 1932, Vol. 4, No. 2, pp. 104-114, pls. 1-2. References, p. 114.

Beeley, F. Report on sulphur dusting experiments. *Journal of the Rubber Research Institute of Malaya*, Kuala Lumpur, F. M. S., 1932, Vol. 4, No. 2, pp. 115-122, 1 pl.
[Against *Oidium Heveae*].

Bell, Arthur F. Banded (sectional) chlorosis. Associated with tangle top and death of sugar-cane. *Queensland Agricultural Journal*, Brisbane, 1932, Vol. XXXVIII, Pt. 6, pp. 476-483, pls. 169-174. Literature cited, p. 483.

Bertolini, R. A proposito di olmi e di malattie. *Bollettino della Cattedra Ambulante di Agricoltura per la Provincia di Reggio Emilia*, Reggio Emilia, 1933, anno XXXIII, n. 3, pp. 1-2.
[*Graphium Ulmi*].

Birmingham, W. A. Two fungous diseases of the loquat. *The Agricultural Gazette of New South Wales*, Sydney, 1932, Vol. XLIII, Pt. 11, pp. 863-867, figs. 1-7. Literature cited, p. 867.
[*Entomosporium* sp. and *Fusicladium Eriobotryae* on *Eriobotrya japonica*].

Chamberlain, E. E. Sclerotium-disease (*Sclerotinia sclerotiorum*) of tomatoes. Its appearance, cause, and preventive treatment. *The New Zealand Journal of Agriculture*, Wellington, 1932, Vol. 45, No. 5, pp. 260-268, figs. 1-6. Literature cited, pp. 267-268.

CHAMBERLIN, W. J. An introduction to Forest Entomology. A manual. Ann Arbor, Michigan, Edwards Brothers, Inc., [1931], IV + 138 pp., 4 figs., 3 pls., 1 chart.

COSTA GIUSEPPE. La reazione del terreno e lo sviluppo dell'orobanche della fava. (Seconda nota preliminare). *Annali di Tecnica Agraria*, Roma, 1933, anno VI, fasc. I, pp. 22-35, figg. 1-3.
[*Orobanche crenata*].

COSTANTIN, J., LEBARD, P., et MAGROU, J. Expériences sur la cure en montagne de la pomme de terre. *Annales des Sciences Naturelles, Botanique*, X^e sér., Paris, 1932, tome XIV, fasc. 2 (et dernier), p. 327-341, fig. 1-4, pl. I-II. Bibliographie, p. 341.
[For control of virus diseases].

DAVIDSON, J. Insects observed on crops in South Australia during the period June, 1930, to June, 1932. *The Journal of the Department of South Australia*, Adelaide, 1932, Vol. XXXVI, No. 3, pp. 283-286.

DAVIES, W. MALDWYN. Ecological studies on aphides infesting the potato crop. *Bulletin of Entomological Research*, London, 1932, Vol. XXIII, Pt. 4, pp. 535-548, fig. 1. References, pp. 547-548.
[*Myzus persicae, M. pseudosolani, Macrosiphum gei*].

DE BERGEVIN, ERNEST. Note à propos de cas d'hybridation constatés entre *Oxycarenus lavaterae* F. et *Oxycarenus hyalinipennis* Costa (Hémiptères *Lygaeidae*) et description d'une nouvelle espèce d'*Oxycarenus* provenant du Sud-tunisien. *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord*, Alger, 1932, tome XXIII, n° 8, p. 253-256, fig. 1.
[*O. castaneus* n. sp. Description in French. Biology unknown].

DICKSON, JAMES G. Studying the effect of environment upon the development of parasitic diseases and selecting for disease resistance presents problems in co-operation in research. *Scientific Agriculture*, Ottawa, Canada, 1932, Vol. XIII, No. 4, pp. 213-224, figs. 1-5.
[In English, with title and summary in French].

DIX, und KÜHLMORGEN. Untersuchungen über die Keimung der Dauersporangien von "Synchytrium endobioticum". *Pflanzenbau*, Leipzig 1932, 9. Jahrg., Heft 6, S. 209-216.

DUSTAN, ALAN G. Vegetable insects and their control. *Dominion of Canada. Department of Agriculture. Bulletin No. 161 – New Series*, Ottawa, 1932, 74 pp., 65 figs.
[In this bulletin an effort has been made to bring together the recently recommended control measures for the most important insects of vegetables occurring in Canada].

FAES, H. Les conséquences économiques de la pénétration du doryphore du Colorado dans nos cultures de pommes de terre. *Commission speciale de la coopération agricole de la Commission internationale d'Agriculture. Lausanne, 20-23 juillet 1923*. Alençon, Imprimerie Alençonnaise, [1932], 10 p.
[*Leptinotarsa decemlineata*].

FRANSSEN, C. J. H. De wrattige maïsboorder (Pyrausta nubilalis Hbn.). *Landbouw*, Buitenzorg 1932, VIII jaarg., no. 4, blz. 266-284, fig. 1-3. Literatuur, blz. 281-282.
[In Dutch, with title and summary in English :— The Pyrausta corn-borer in Netherlands India (*Pyrausta nubilalis* Hbn.)].

FRANSSEN, C. J. H., en VAN HEURN, W. C. Biologie en bestrijding van de sjalottenthrips (Thrips tabaci Lindn.). *Landbouw*, Buitenzorg 1932, VIII jaarg., no 5, blz. 301-320, 1 fig. Literatuur, blz. 319-320.
[In Dutch, with title and summary in English: — Biology and control of the onion thrips (*Thrips tabaci* Lindn.)].

GÄUMANN, ERNST, und CAMPELL, EDUARD. Über eine Kiefernkrankheit im Gebiete des Ofenberges. *Schweizerische Zeitschrift für Forstwesen*, Bern 1932, 83. Jahrg., Nr. 11, S. 329-332, 1 Taf.
[*Agaricus melleus*].

GODBOUT, FERNAND L., and COULSON, J. G. Quebec orchard spray service. *Scientific Agriculture*, Ottawa, Canada, 1932, Vol. XIII, No. 4, pp. 249-255, fig. 1.
[In English, with title and summary in French].

GOLDING, F. D. Sodium fluosilicate as a poison against the hoppers of *Locusta migratoria migratorioides*, R. & F., in Nigeria. *Bulletin of Entomological Research*, London, 1932, Vol. XXIII, Pt. 4, pp. 449-461. References, pp. 460-461.

GORDON, W. L., and WELSH, J. N. Oat stem rust investigation in Canada. *Scientific Agriculture*, Ottawa, Canada, 1932, Vol. XIII, No. 4, pp. 228-235. Literature cited, p. 235.
[In English, with title and summary in French].

HELY, P. C. Insect pests of rice crops on the Murrumbidgee Irrigation Area. *The Agricultural Gazette of New South Wales*, Sydney, 1932, Vol. XLIII, Pt. 11, pp. 809-812.
[*Laius femoralis*, *Chortoicetes terminifera*, *Pragmatiphila* sp., *Aulocophora olivieri*, *Haltica ignea*, *Neuropteron* sp.].

HERMS, W. B. Deterrent effect of artificial light on the codling moth. *Hilgardia*, Berkeley, California, 1932, Vol. 7, No. 7, pp. 263-280, figs. 1-4.
[*Carpocapsa pomonella*].

HOCKEY, J. F. Gravenstein spot scald. *Scientific Agriculture*, Ottawa, Canada, 1932, Vol. XIII, No. 4, pp. 225-227, fig. 1. References, p. 227.
[In English, with title and summary in French. Disease of Gravenstein apples, the cause of which has not yet been determined].

HODSON, W. E. H. The large narcissus fly, *Merodon equestris*, Fab. (Syrphidae). *Bulletin of Entomological Research*, London, 1932, Vol. XXIII, Pt. 4, pp. 429-448, fig. 1, pl. XXXIX. References, pp. 447-448.

HOWITT, J. E. Apple orchard spray service in Ontario. *Scientific Agriculture*, Ottawa, Canada, 1932, Vol. XIII, No. 4, pp. 256-259.
[In English, with title and summary in French].

Jaag, Otto. Über die *Rhabdocline* – Erkrankung der Douglasien. *Schweizerische Zeitschrift für Forstwesen*, Bern 1932, 83. Jahrg., Nr. 11, S. 332-337.
[*Rhabd. Pseudotsugae*].

Jacentkovský, D. Tachiny a květy. Raupenfliegen und Blumen. *Lesnická Práce*, Písek 1932, roč. XI, čis. 11-12, str. 517-527. Literatura, str. 526-527.
[In Czech, with title and summary in German].

Koidsumi, Kiyóaki. Experimental studies on the influence of low temperatures upon the development of fruit flies. Second report. – On the fatal action of extremely low temperatures upon the pupae and larvae of melon fly (Chaetodacus cucurbitae Coquillet). *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1932, Vol. IV, No. 3, pp. 322-359.
[In Japanese, with title and summary in English].

Lemesle, Robert. Nouvelles recherches sur le *Scabiosa Succisa* L. attaqué par le *Fusarium anthophilum* (A. Br.) Wr. *Comptes rendus hebdomadaires des séances de l'Académie des Sciences*, Paris, 1932, tome 195, nº 25, pp. 1319-1321, 1 fig.

Lepigre, A. Note sur l'apparition en Algérie de *Schedius* (*Oencyrtus*) *Kuwanae* How. (Hym. *Encyrtidae*). *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord*, Alger, 1932, tome XXIII, nº 8, p. 227.
[Egg parasite of *Lymantria dispar*].

Lindeijer, Egberta Johanna. De bacterie-ziekte van den wilg veroorzaakt door Pseudomonas saliciperda n. sp. Baarn, N. V. Hollandia-Drukkerij, 1932, blz. [VIII] + 82, teekening 1-4, foto I-VIII. Literatuurlijst, blz. 80-82.
[In Dutch, with summary in English. Bacterial disease of *Salix* spp. observed in the Netherlands and caused by *Pseudomonas saliciperda* n. sp. Description in Dutch].

Liro, J. Ivar. Über die Eriophyiden der Corylus-Arten. *Annales Societatis Zoolog.-Botanicae Fennicae Vanamo*, Helsinki 1932, Tom. 12, S. 47-90, Fig. 1-10. Verzeichnis der zitierten Literatur, S. 82-90.
[In German, with title and summary also in Finnish. *Eriophyes avellanae*, *E. vermiformis*, *Phyllocoptes comatus*, *Phyll. coryli* n. sp., *Oxypleurites depressus*, *Anthocoptes loricatus* on *Corylus Avellana*. Description of the new species in German].

MacM., M. "Potato sickness" and the eelworm *Heterodera schachtii*. *Imperial Bureau of Agricultural Parasitology. Notes and Memoranda, No. 6*, Winches Farm Drive, Hatfield Road, St. Albans, England, 1932, 22 pp. British literature on *Heterodera schachtii*, pp. 20-22.

Mager, C. J. The occurrence of blackleg of potatoes in New South Wales. *Agricultural Gazette of New South Wales*, Sydney, 1932, Vol. XLIII, Pt. 12, p. 886.
[*Bacillus phytophthorus*].

MATSUMOTO, TAKASHI, YAMAMOTO, WATARO, and HIRANE, SEIICHI. Physiology and parasitology of the fungi generally referred to as Hypochnus Sasakii Shirai. 1. Differentiation of the strains by means of hyphal fusion and culture in differential media. *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1932, Vol. IV, No. 3, pp. 370-388, figs. 1-4. Bibliography, p. 388.

MESNIL, L., et PÉTRÉ, F. Un *Anthomyidae* [DIPT.] nuisible aux céréales en France. *Bulletin de la Société Entomologique de France*, Paris, 1932, tome XXXVII, nº 15, pp. 217-222, fig. 1-3. Bibliographie, p. 22.
[*Chortophila sepia* on wheat and rye].

MEYER-HERMANN, K. Die Bekämpfung des Huflattichs und anderer Wurzelunkräuter mit chemischen Mitteln. *Deutsche Landwirtschaftliche Presse*, Berlin 1932, 59. Jahrg., Nr. 40, S. 503, 4 Abb.
[*Tussilago Farfara*].

MOLZ, E. Die Bekämpfung des Rübennematoden mittels des Chlorkalk-Aktivierungsverfahrens. *Deutsche Landwirtschaftliche Presse*, Berlin 1932, 59. Jahrg., Nr. 30, S. 371-372. Literaturnachweis, S. 372.
[*Heterodera schachtii*].

MOSSOP, M. C. Cultural methods and tobacco whitefly in Southern Rhodesia. *Bulletin No. 868*, Salisbury, 1932, 4 pp.
[*Bemisia* sp. ?].

MOSSOP. M. C. Pests of stored tobacco in Southern Rhodesia. *Bulletin No. 850*, Salisbury, 1932, 23 pp., 6 figs. Literature cited, p. 23.
[*Ephestia elutella. Lasioderma serricorne*].

MURPHY, PAUL A., and MCKAY, ROBERT. A comparison of some European and American virus diseases of the potato. *The Scientific Proceedings of the Royal Dublin Society*, Dublin, 1932, Vol. 20, N. S., Nos. 21-27, pp. 347-358. Literature cited, pp. 357-359.

NANNIZZI, ARTURO. Nuove specie di Micromiceti parassiti o saprofiti su piante coltivate. *Archivio Botanico per la Sistematica, Fitogeografia e Genetica (Storica e Sperimentale)*, Forlì, 1932, vol. VIII, fasc. III-IV, pp. 296-301.
[Latin diagnoses of the following new species are given:— *Phomopsis Phellodendri*, saprophytic on the branches of *Phellodendron amurense*; *Phyllostictelia Draconis*, parasitic on the leaves of *Dracaena Draco*; *Coniothyrium Garryae*, saprophytic on the branches of *Garrya Fauyena*; *Con. Manihotis*, saprophytic on the branches of *Manihot palmata*; *Septoria Iridis-japonicae*, parasitic on the leaves of *Iris japonica*; *Coryneum Feijoae*, parasitic on the leaves of *Feijoa Sellowiana* at Siena].

NICOLAS, G., et AGGÉRY. Une maladie du laurier-cerise en Suisse. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1932, tome XIX, fasc. 4, p. 174-176, pl. VI.
[Bacteria and *Heterosporium* sp.].

NIGGL, L. Kalkstickstoff zur Grünland-Unkrautbekämpfung. *Deutsche Landwirtschaftliche Presse*, Berlin 1932, 59. Jahrg., Nr. 40, S. 504.

Ocfemia, G. O., and Mendiola, Victoria B. The Fusarium associated with some field cases of heart rot of abacá. *The Philippine Agriculturist*, Los Baños, Laguna, P. I., 1932, Vol. XXI, No. 5, pp. 296-308, fig. 1-3. Literature cited, p. 308.
[*Fusarium moniliforme* var. *subglutinans* on *Musa textilis*].

Oddone, Emilio. Influenza dei fattori insolazione e nebbia sullo sviluppo della ruggine del grano. *Nuovi Annali dell'Agricoltura*, Roma, 1932, anno XII, nn. 2-3, pp. 344-356, figg. 1-2.
[*Puccinia*].

Opsomer, J. E. La culture du kapokier à Java avec quelques notes sur sa culture en d'autres régions. *Bulletin Agricole du Congo Belge*, Bruxelles, 1932, vol. XXIII, nº 2, p. 166-204, fig. 68-76. Listes bibliographiques, p. 200-204.
[The contents include :— Chapitre V. Maladies et ennemis (p. 178-186, fig. 72)].

Paoli, Guido. Specie nuove di *Empoasca* (Hemiptera-Omoptera) e appunti di corologia. *Memorie della Società Entomologica Italiana*, Genova, 1932, vol. XI, pp. 109-122, figg. 1-6.
[*Empoasca distinguenda* n. sp. on cotton, maize and *Phaseolus acutifolius* var. *latifolius* in the Transvaal and on cotton in the Belgian Congo ; *E. benedettoi* n. sp., on cotton in Italian Somaliland, in the Sudan and in Tanganyika Territory and on an unidentified plant in Eritrea ; *E. formosana* n. sp. on beans, castor oil plant, eggplant, vine and sugar beet in Italy. Descriptions in Italian].

Pittman, H. A. Downy mildew of tobacco. Two recent outbreaks near Perth. *Journal of the Department of Agriculture, Western Australia*, Perth, 1932, Vol. 9 (Second Series), No. 3, pp. 452-456, fig. 1.
[*Peronospora* sp.].

Pollacci, Gino. Sul parziale albinismo del frumento. Nota preliminare. *Atti dell'Istituto Botanico « Giovanni Briosi » e Laboratorio Crittogamico Italiano della R. Università di Pavia*, Pavia, 1932, vol. III, ser. IVª, anno 1932, pp. 1-8, figg. 1-2.
[With summaries in Italian and Latin. A non-infectious affection which has attacked more particularly the ' Mentana ' and ' Edda ' varieties of wheat].

Prinz, J. Zur Epidemiologie der Schmierlaus (*Pseudococcus citri* R.) in Transkaukasien. *Anzeiger für Schädlingskunde*, Berlin 1932, VIII. Jahrg., Heft 12, S. 145-148, 1 Abb.

Pustet, A. Die Bekämpfung der Bisamratte in Bayern in den Jahren 1929-1931. *Praktische Blätter für Pflanzenbau und Pflanzenschutz*, Freising 1932, X. Jahrg., Heft 9/10, S. 222-242, 1 Karte.
[*Fiber zibethicus*].

Rabinovitz Sereni, D. Sopra una malattia batterica dei limoni. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1932, anno XII, n. ser., n. 3, pp. 278-284. Bibliografia, pp. 283-284.
[From lemons from Sicily and from about Amalfi a bacterium has been isolated referred to *Bacillus citrimaculans*].

Răduleşcu, Eugen. Problema combaterei ruginilor grâului din România. *Viata Agricolă*, Bucureşti 1932, anul XXIII, nr. 2, 11, p. 518-526.
[In Rumanian. The problem of rust (*Puccinia*) control on wheat in Rumania].

Régnier, P. L'organisation moderne de la protection des végétaux. *La Vie Agricole et Rurale*, Paris, 1932, 21e année, n. 49, p. 379.

Regueral, Francisco S. La foliocelosis o veteado de las hojas y las exigencias en cal de los frutales. *Agricultura*, Madrid, 1932, año IV, núm. 44, págs. 465 a 468, figs. 1-4, 1 diagr.

Reinmuth, E., und Finkenbrink, W. Experimentelles zur Frage der Eisenfleckigkeit der Kartoffel. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1933, 43. Bd., Heft 1, S. 21-28, Abb. 1-5. Literatur, S. 28.
[Disease of undetermined origin].

République Française. Ministère des Affaires Étrangères. Procès-verbal des séances de la deuxième Conference internationale pour les recherches antiacridiennes. Paris, 15 juillet-23 juillet 1932. Paris, Éditions de la Société Entomologique de France, 1932, 29 p.
[The Report of the meetings of this Conference is accompanied by the following appendices :—
I. Rapport sur les recherches entreprises pendant l'année 1931 et le premier semestre de l'année 1932, par l'Imperial Institute of Entomology [de Londres]. — II. Programme, proposé par la Délégation britannique, des recherches que l'on se propose de faire pendant la période d'avril 1932 à avril 1933. — III. Déclaration de M. le Professeur Silvestri, Délégué du Gouvernement italien. — IV. Déclaration de M. le Dr Chiaromonte, Délégué des Colonies italiennes. — V. Note sur le problème acridien en Egypte, par A. M. Mistikawy. — VI. Communication de M. Bredo sur les sauterelles du Congo belge. — VII. Déclarations et propositions de la Délégation française. — VIII. Signes adoptés par la Réunion du 28 septembre-1er octobre 1931 pour les cartes des Acridiens migrateurs].

Reyes, Gaudencio M. An unreported fungous disease of the Philippine migratory locust. *The Philippine Journal of Science*, Manila, 1932, Vol. 49, No. 3, pp. 407-418, pls. 1-5. Literature cited, pp. 415-416.
[*Beauveria globulifera* on *Locusta migratoria migratorioides*].

Reyes, Gaudencio M. Artificial infection of the coconut leaf miner with Beauveria globulifera (Spegazzini) Picard. *The Philippine Journal of Science*, Manila, 1932, Vol. 49, No. 3, pp 419-441, pls. 1-5. Literature cited, pp. 439-440.
[*B. globulifera* and *Promecotheca cumingi*].

Riols, P. A propos d'une galéruque parasite du fraisier dans la région de l'Est (*Galerucella tenella* Linné). *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1932, tome XIX, fasc. 4, pp. 176-178.

Ritchie, James H. Some observations on the honey agaric (*Armillaria mellea* syn. *Agaricus melleus*). *The Scottish Forestry Journal*, Edinburgh, 1932, Vol. 46, Pt. 2, pp. 132-142, figs. 1-2.

ROHDE, THEO. Welche Douglasien sind in Deutschland durch Rhabdocline gefährdet? *Forstarchiv*, Hannover 1932, 8. Jahrg., Heft 22, S. 389-392, Abb. 1-2.
[*Rhabdocline Pseudotsugae*].

SAVASTANO, GIULIO. Ricerche sperimentali sul marcio dei frutti degli agrumi. I. – Specie batteriche e fungine isolate ed alcune loro caratteristiche biologiche. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1932, anno XII, n. ser., n. 3, pp. 306-342, figg. 1-2, tav. XII-XVIII.
[*Phytomonas citriputeale, Phytophthora citrophthora, Sclerotinia minor, Scl. sclerotiorum, Penicillium digitatum, P. italicum, Oospora Citri-Aurantii, Botrytis cinerea, Fusarium lateritium, Aspergillus niger, Colletotrichum gloeosporioides, Trichoderma lignorum, Septoria Citri, Pleospora herbarum, Rhizopus nigricans, Dothiorella* sp.].

SAVASTANO, GIULIO. Una gommosi del limone causata da « Dothiorella ». *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1932, anno XII, n. ser., n. 3, pp. 245-274, figg. 1-2, tav. VI-XI. Bibliografia, pp. 273.
[In Italy and elsewhere].

SCHULTZ, ENRIQUE F. El tratamiento de los frutales perjudicados por la langosta voladora. *Revista Industrial y Agrícola de Tucumán*, Buenos Aires, 1932, tomo XXII, núms. 3-4, págs. 76 a 78.
[*Schistocerca paranensis*].

SCHULTZ, ENRIQUE F. La extirpación de las principales cochinillas que infestan los « Citrus » en Ticumán. *Revista Industrial y Agrícola de Tucumán*, Buenos Aires, 1932, tomo XXII, núms. 3-4, págs. 73 a 75.
[*Chrysomphalus aonidum, Lepidosaphes beckii, Coccus hesperidum, Chionaspis citri, Icerya purchasi*].

SEVERIN, HENRY H. P. Transmission of carrot, parsley, and parsnip yellows by Cicadula divisa. *Hilgardia*, Berkeley, California, 1932, Vol. 7, No. 3, pp. 163-179, figs. 1-7. Literature cited, pp. 179.

SIBILIA, CESARE. Esperienze di lotta contro la scabbia della patata. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1932, anno XII, n. ser., n. 3, pp. 298-305.
[*Actinomyces Scabies*].

STÄGMEYR, E. Zur Bekämpfung der Blattrandkrankheit im Obstbau. *Die Ernährung der Pflanze*, Berlin 1932, Bd. 28, Heft 21, S. 382-384, Abb. 11-12.
[With title and summary in English and Spanish. Potash deficiency disease].

STEPHAN, JOHANNES. Die Oxydasen in der phytopathologischen Literatur. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Suttgart 1933, 43. Bd., Heft 1, S. 1-13. Literaturverzeichnis, S. 12-13.

STEVENS, O. A. The number and weight of seeds produced by weeds. *American Journal of Botany*, Lancaster, Pa., 1932, Vol. XIX, No. 9, pp. 784-794. Literature cited, p. 794.

SÜREYYA, M., [et] HOVASSE. Ada çamlarina musallat olan böcekler. Les ennemis des pins aux Iles des Princes. Istanbul, Şirketi Mürettibiye Matbaasi, s.d., 32 p., 1 pl.
[In Turkish, with title and text also in French. *Marchalina hellenica, Leucaspis loewi, Thaumetopoea pityocampa, Lasiocampa pini, Retinia buoliana, Myelophilus piniperda, M. minor, Tomicus rectangulus, Sirex juvencus*].

SUTER, PAUL. Der Apfelblattsaugerherd in Egnach (Schweiz). *Anzeiger für Schädlingskunde*, Berlin 1932, VIII. Jahrg., Heft 12, S. 148-155, Abb. 1-9.
[*Psylla mali*].

TILLER, L. W. A superficial spotting disease of the Lord Wolseley apple. *The New Zealand Journal of Science and Technology*, Wellington, N. Z., 1932, Vol. XIV, No. 2, pp. 111-113, 1 fig.
[The spotting is a photo-chemical effect, and not a temperature effect].

THOMAS, P. H., and RAPHAEL, T. D. The composition, application, and general effects of the main orchard sprays at present applied to pome fruits. *The Tasmanian Journal of Agriculture*, Hobart, 1932, Vol. III, No. 4, pp. 145-153, 4 figs.

VAN HALL, C. J. J. Cacao. Second edition. London, Macmillan and Co., Limited, 1932, XVIII + 514 pp., 176 figs.
[Chapter IX : Diseases and Enemies (pp. 226-303, figs. 84-109) has been considerably enlarged in comparison with the first edition which appeared in 1914 under the title of ' Cocoa '].

VAYSSIÈRE, P. Insectes utiles ou nuisibles acclimatés en France ou dans les Colonies depuis un siècle. *Société Entomologique de France. Livre du Centenaire*, Paris, 1932, p. 629-648.
[*Phylloxera vastatrix, Icerya purchasi* and *Novius cardinalis, Pseudococcus nipae, Dactylopius coccus, Pulvinaria floccifera, Diaspis* (*Sasakiaspis*) *pentagona, Chrysomphalus dictyospermi, Chrys. aonidum, Morganella longispina, Lepidosaphes hawaiensis; L.* (*Cocomytilus*) *bambusicola, Aspidiotus hederae, Parlatoria blanchardi* and its enemies *Pharoscymnus anchorago* and *Cybocephalus seminulum, Eriosoma lanigerum* and its parasite *Aphelinus mali, Ceresa bubalus, Stephanitis rhododendri, Sphenoptera gossypii, Carpophilus decipiens, Niptus hololeucus, Pantomorus godmani, Leptinotarsa decemlineata, Cryptolaemus montrouzieri, Xanthodes intercepta, Phthorimaea operculella* y *Habrobracon johannseni, Gracilaria azaleella, Grapholitha leplastriana, Laspeyresia molesta, Pectinophora gossypiella, Ceratitis capitata, Contarinia torquens, Iridomyrmex humilis arrogans, Schedius kuwanae*].

VAYSSIÈRE, P. Une opinion sur le doryphore et sur le pou de San José. *Bulletin de la Société d'Encouragement pour l'Industrie Nationale*, Paris, 1932, 131e année, nº 11, p. 588-596, fig. 1-5.
[*Leptinotarsa decemlineata, Aspidiotus perniciosus*].

VIDAL, J. L. Irrégularités de développement du mildiou en Charente. *Le Progrès Agricole et Viticole*, Montpellier, 1932, 49e année, nº 50, p. 570-572.
[*Plasmopara viticola*].

VIENNOT, G. Une Ustilaginée nouvelle pour la France, *Ustilago oxalidis* Ellis et Tracy parasite d'*Oxalis stricta* L. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1932, tome XIX, fasc. 1, p. 17-23.

VILLEDIEU, G. Cuivre et mildiou. *Le Progrès Agricole et Viticole*, Montpellier, 1932, 49e année, nº 49, p. 536-539.
[*Plasmopara viticola*].

VINSON, CARL G. Mosaic diseases of tobacco : V. Decomposition of the safranin-virus precipitate. *Phytopathology*, Lancaster, Pa., 1932, Vol. 22, No. 12, pp. 965-975.

VOGLINO, P. Le macchie nere del noce. *Bollettino del Laboratorio Sperimentale (Regio Osservatorio Regionale) di Fitopatologia*, Torino, 1932, anno 9, n. 6, pp. 85-86.
[The writer is of the opinion that the disease in caused by *Pseudomonas Juglandis*].

VOGLINO, P. Piante infestanti i vigneti. *Il Coltivatore e Giornale Vinicolo Italiano*, Casale Monf., 1932, anno 78º e 58º, n. 49, pp. 628-630.
[*Cynodon Dactylon* and *Sorghum halepense* in vineyards in Piedmont].

v. SENGBUSCH, R., und LOSCHAKOWA-HASENBUSCH, N. Immunitätszüchtung bei Tomaten. Vorläufige Mitteilung über die Züchtung gegen die Braunfleckenkrankheit (*Cladosporium fulvum* Cooke) resistenter Sorten. *Der Züchter*, Berlin 1932, 4. Jahrg., Heft 11, S. 257-264, Abb. 1-5. Literatur, S. 263-264.

VON TUBEUF. Ein ungewöhnlicher Fall von ausgedehnter Cecidomyiose in einem Kiefernstangenholze. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1933, 43. Bd., Heft 1, S. 29-30, 1 Abb.
[*Cecidomyia brachyntera*].

VON TUBEUF. Warnung. Ein neuer Schädling wieder vor den Toren Deutschlands. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1932, 42. Bd., Heft 12, S. 561-567, Abb. 1-7.
[*Aspidiotus perniciosus*].

VON WINNING, ERIKA. Die Bekämpfung der Kartoffelkäfers (*Leptinotarsa decemlineata* Say) in Frankreich. *Anzeiger für Schädlingskunde*, Berlin 1932, VIII. Jahrg., Heft 11, S. 129-135, Abb. 1-9.

VRYDAGH, J.-M. Les invasions de criquets migrateurs dans la Province Orientale. *Bulletin Agricole du Congo Belge*, Bruxelles, 1932, vol. XXIII, nº 2, p. 147-165, fig. 57-67. Bibliographie, p. 165.
[*Locusta migratorioides, Nomadacris fasciata, Schistocerca gregaria*].

WELSH, JOHN N. The effect of smut on rust development and plant vigour in oats. *Scientific Agriculture*, Ottawa, Canada, 1932, Vol. XIII, No. 3, pp. 154-164, fig. 1. Literature cited, p. 164.
[With title and summary in French. *Ustilago Avenae, U. levis, Puccinia graminis* f. *Avenae, P. coronata* f. *Avenae*].

WILLAUME, F. Les problèmes actuels de la défense des cultures en France. *Bulletin du Comité de Propagande pour la Défense et l'Amélioration des Cultures*, in *La Revue des Fruits, Légumes et Primeurs*, Paris, 1932, 3e année, nº 11, p. 35-39; nº 12, p. 43-46, 2 fig.

ZACHER, FRIEDRICH. Die tierischen Samenschädlinge in Freiland und Lager. Spinnentiere, Käfer und Hautflüger. (Wissenschaft und Technik des Gartenbaues. Herausgegeben von Professor Dr. Höstermann, Berlin – Steglitz und Landesökonomierat H. R. Wehrhahn, Hohenheim b. Stuttgart. Heft 5). Neudamm, Verlag von J. Neumann, 1932, VIII + 78 S., 20 Taf.

[A survey of the animal parasites of seeds and fruits of the wild and cultivated plants of the whole world does not yet exist in spite of the obvious practical utility of such a work, not only for those concerned in the trade in seeds but also for the Seed Control Stations and establishments concerned with plant protection and supervision of imports.

The present volume is a beginning at filling this gap and is specially welcome and meritorious as the data and observations in this particular field are still scarce and largely incomplete, particularly as regards non-European countries, and must be patiently got together from scattered sources.

The author who hopes to publish later a complete manual of the subject, deals in this first part with the Crustacea, the Arachnoidea, the Coleoptera and the Hymenoptera; the second part is to deal with the remaining orders of Insects, the Nematoda, etc., and will describe shortly the methods of control which for many species the author has already indicated.

The value of the work is enhanced by 71 clear and largely original figures].

NOTES

Competition for the Discovery of New Locust Control Methods. — The 'Direction générale' of Agriculture, Commerce and Land Settlement of Morocco (French Zone) has just informed the International Institute of Agriculture that the competition [see this *Bulletin*, 1930, No. 12, p. 196] has taken place but the Commission responsible for awarding the prizes considered that the inventions entered did not fulfil the conditions of the competition.

Prof. ALESSANDRO BRIZI, *Segretario generale dell'Istituto, Direttore responsabile.*